

VAGRANT EUPITHECIAS.

[Lepidoptera; Geometridæ.]

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Some time ago, through the courtesy of Dr. Harrison G. Dyar, there was entrusted to me some specimens from the collection of the U. S. National Museum, belonging to the geometrid genus *Eupithecia* and allies, for study and arrangement. At that time the identity of even our commoner species was in doubt, and the types of other described forms, without seeming complement among this material, ought to have suggested how much labor must be bestowed upon this group before they could be intelligently assigned to positions of permanency. A large number of new species were being described from the Western States, from Canada, and from British Columbia by Mr. George W. Taylor, whose types were practically inaccessible for reference, owing to their distant location, and while I believe I have been able to identify some of these correctly it would not be surprising if other forms I have here described prove synonyms of some of his species. Even with this possibility it was deemed better to attach names to those distinct forms which I have separated.

The results as given seem meager indeed, compared with the labor expended, except as a contribution of larger knowledge to the writer and the opportunity it affords him to express a grateful recognition of the kindly forbearance shown him during the long period the material has remained in his possession.

Genus *NASUSINA* Pearsall.*Nasusina niveifascia* Hulst.

Two males, two females, Las Vegas, New Mexico, August 12 (Barber); Pecos, New Mexico, July 11 and 14 (Cockerell).

Nasusina inferior Hulst.

One male, Claremont, California (Carl Baker).

Nasusina discoidalis Grossbeck.

One female, Las Vegas, New Mexico.

Nasusina remorata Grossbeck.

One male, Stockton, Utah (Spalding), August 30, 1904.

Nasusina insipidata, new species.

Expanse, 16 mm.

Palpi short, bushy, dark brown, tipped with white. Front with whitish and dark-brown scales intermixed and a jet black band at clypeal edge. Antennæ slender, shortly ciliate, white barred with gray-brown. Thorax white above, with a broad band of dark brown across front, grayish at

sides. Abdomen above white, mixed with gray brown, paler at base. On second segment a narrow band of black, a narrow lateral stripe, and dorsal tufts black. Primaries much produced and sharp at apices. Ground-color soiled white, clothed with brown so disposed as to leave all cross-lines of the ground-color. Basal double, about one-third crosses costa, then turns sharply, inclining toward base, straight to inner margin. Intradiscal, also double, passes just outside the small linear black discal dot, running in a line straight from costal edge toward outer margin, thence at nearly a right angle, running parallel with basal line to inner margin. Extra discal double line makes a sharp outward angle after crossing costa, then in nearly a straight course, but with a strong basal trend, reaches inner margin halfway between intradiscal terminus and anal angle. Subterminal space darkened, centrally divided by the fine zigzag whitish subterminal line. Marginal line dark brown, cut at veins. A few black scales are clustered at apex, and above discal dot on costa emphasize the beginning of a darker space crossing wing between the double lines. Secondaries with ground-color as in primaries, with basal and extra-discal lines of dark-brown scales crossing the wings, the former in a regular curve, the latter strongly rounded outward about the small, diffuse, black discal spot, leaving the enclosed space rather clear of scales. Outside this the double, clearly marked pale lines run parallel to it. Terminal space darker, centrally divided by a broad, irregular white line, parallel to margin. Marginal line dark brown. Fringes pale on all wings, checkered with dark scales at end of veins. Basal area darkened at inner margin, as are all the cross-lines. Beneath colored as above, all the lines more clearly defined. Discal dots small, linear, sharply defined, black. Body beneath white, abdomen paler than above. Legs white sprinkled with brown scales.

Type: One male, taken at Las Vegas Hot Springs, New Mexico, August 13 (Barber, coll.). No. 13361, U. S. National Museum.

A female from the collection of the American Museum of Natural History, New York City, No. 13246 of the Hy. Edwards collection labeled "Havilah Calif.," I have made a cotype with some hesitation, because of its condition. The wings are more brownish than in type, but I can trace no other distinction.

Genus EUPITHECIA.

Eupithecia insignificata Taylor.

One female, Wellington, British Columbia, April 16, 1902.

Var. *sublineata* Taylor.

Male and female, Wellington, British Columbia, April 5, 1902. Two females, Seattle, Washington (Johnson).

Eupithecia modesta Taylor.

Male and female, Victoria, British Columbia (Anderson).

***Eupithecia olivacea* Taylor.**

One female, Wellington, British Columbia, April 6, 1903, and another, much worn, Kaslo Creek, British Columbia.

***Eupithecia perbrunneata* Taylor.**

One male, May 15, —, no locality; two females, one taken at Victoria, British Columbia, and another, No. 39045 (Dyar), which I doubtfully place with it, Victoria, British Columbia, August 23.

***Eupithecia alberta* Taylor.**

Two specimens seem to answer the description of this species; one Poland, Arizona (Mrs. H. M. Peabody); Yellowstone Park, July 11, 1892 (Dr. Wm. Barnes).

***Eupithecia cootenaiata* Dyar.**

A much-worn specimen is referred to this species with some doubt.

***Eupithecia nimbosa* Hulst.**

A specimen minus abdomen from Fort Collins, Colorado (July 16), agrees with type in Hulst collection at New Brunswick, but not with that in Brooklyn Institute; another mutilated female from Pullman, Washington, seems conspecific.

***Eupithecia plenoscripta* Hulst.**

One female, Seattle, Washington (Johnson).

***Eupithecia multiscripta* Hulst.**

One male, Pullman, Washington, June 9, 1898 (Piper).

***Eupithecia limnata* Pearsall.**

Eleven males (see Proc. Ent. Soc. Wash., vol. xi, p. 126).

***Eupithecia usurpata* Pearsall.**

Three specimens (see Proc. Ent. Soc. Wash., vol. xi, p. 129).

***Eupithecia sierræ* Hulst.**

One female, Pullman, Washington, June 8 (Piper).

***Eupithecia borealis* Hulst.**

One female, Las Vegas Hot Springs, New Mexico, August 11 (Barber).

***Eupithecia longidens* Hulst.**

One female, Las Vegas, New Mexico, August 7 (Barber).

***Eupithecia bivittata* Hulst.**

One female, Eureka, California, June 16 (Barber).

***Eupithecia ornata* Hulst.**

Two females, Las Vegas, New Mexico, August 6 (Barber).

Eupithecia maestosa Hulst.

One male, Paraje, New Mexico, April 11, 1892 (Cockerell).

Eupithecia unicolor Hulst.

One female, Kaslo, British Columbia (Dyar).

Eupithecia mutata Pearsall.

One male from Seattle, Washington (Johnson), and another from the mountains of New Mexico, above timber-line, August 2 (Cockerell), in bad condition.

Eupithecia ravocostalista Packard.

Two males, Wellington, British Columbia, April 17, 1903 (Bryant).

Eupithecia swettii Grossbeck.

Two females and one male, the former Washington, D. C., April 3, 1895; the latter from Washington, D. C., April 5, (Warner).

Eupithecia miserulata Grote.

Twenty specimens, of which 14 are the normal form from Maryland (Plummer's Island and Tavilah), and 6 represent the var. *nebulosa* Hulst, labeled "Tavilah, Md.," "Plummer's Id., Md.," and "Selma, Alabama."

Eupithecia harlequinaria Dyar.

Male and female from Wellington, British Columbia, April 29, 1903 (Bryant); 1 male, Kaslo, British Columbia (Dyar).

Eupithecia rotundopunctata Pack.

One female, Eureka, California (Barber), July 6.

Genus EUCYMATOGE.**Eucymatoge vancouverensis** Taylor.

One specimen, Wellington, British Columbia, September 29, 1902.

Eucymatoge tenuata Hulst.

One specimen, Las Vegas, New Mexico, August 15 (Barber).

The following species of *Eupithecia* are described as new:

Eupithecia cupressata, new species.

Expanse, 23 mm.

Palpi very long, rather stout, excepting terminal joint, which is slender and long, pale russet brown, tips white. Head, body, and wings above a roseate chocolate-brown, paler basally on wings and whitish on front and vertex and scutellar region. Antennæ whitish ringed with brown, slender, flattened, slightly ciliate. On primaries, which are large and somewhat extended apically, the basal line is not apparent; the intra-discal black at costa leaves it one-third out in a direct line toward anal

angle as far as the middle of cell, where it turns sharply downward and somewhat basally in a wavy line to inner margin, fading out as it progresses. From costa a little beyond this a short black line runs outward and joins the upper end of the prominent jet black linear discal spot. The extra-discal a little broader and black at costa, crosses it, curves sharply outward with a short, rounded curve at vein 6, turns backward, touching lower end of discal spot, thence direct and fading out as it runs to inner margin in a waved line. The geminate pale line outside this is apparent across wing, a little clearer costally, and is bordered outwardly by a faint dusky line. Submarginal space, a little darker, richer brown, is broad, and a very faint trace of the pale line may be detected. Marginal line on all wings black, broken between veins. Fringes long, with pale line at base, otherwise color of wings, but darkened by a mixture of dusky scales; secondaries show a faint trace of the pale geminate line, bordered at inner margin by broad, dusky lines which fade out at wing center, the outer one filling the space at anal angle. Basally on inner margin are the apparent beginnings of two other very faint cross-lines. Discal dots faint, dusky brown. Beneath the primaries are paler than above, with costa and apices darkened. Only the extra-discal line can be traced across wing, and the inception of extra-discal as a dark spot on costa. Discal spots as above, but fainter. Secondaries whitish, thickly and evenly sprinkled with brown scales, leaving the geminate pale line nearly clear of scales and bordered with narrow dusky lines, the inner quite distinct and crossing wing, rounding outward in a curve just outside the jet black discal dot; marginal line and fringes as above. Body beneath and legs soiled white, sprinkled with dark-brown scales. Abdomen heavy, the second segment above faintly darkened by a few black scales.

Type: No. 13362, male, from Monterey, California, was reared from larva on cypress (No. 5598), the winged form appearing December 5, 1892; is in U. S. National Museum; apparently close to *longipalpata* Pack., and may be the near relative he refers to in that description.

***Eupithecia bindata*, new species.**

Expanse, 16 mm.

Palpi short, stout, bushy, brown. Head rather broad, vertex and front brown and gray scales mixed. Antennæ slender, flattened, and slightly ciliate in both sexes. Wings long and narrow, produced at apices, but outer margins well rounded. Thorax and abdomen above dark brown and gray mixed, the former whitish centrally and with scutellar region broadly so, the latter with white dorsal stripes on first three or four segments, not very definite; second segment somewhat darker brown. All wings above grayish, thickly sprinkled with dark scales, the secondaries but little paler. On primaries about five clusters of dark scales equidistant mark the whitish costæ from base to extra-discal line and brokenly along the principal veins. The wing area within extra-discal is appar-

ently crossed by numerous pale wavy lines; the most prominent are a pair basally and another from costa, curving outward around discal spot, makes a broad outward curve to vein, where a sharp inward angle occurs, thence outward to inner margin. A well-defined extra-discal of dusky brown scales makes a sharp outward turn below costa, at vein 6 makes an abrupt rounded turn backward, and curving slightly toward base reaches inner margin well within anal angle. The distinct geminate pale line follows outside this and parallel to it. Subterminal space darker, more evenly brown, is centrally divided by the clear white wavy line running to anal angle, where it becomes a little broader. Secondaries unmarked, except indications of two parallel dusky curved lines which cross centrally, a few brown scales in clusters along inner margin, and a whitish group at inner angle. Discal dots on primaries small, linear, black; on secondaries mere dusky specks. Terminal lines narrow, black, broken at veins. Fringes on all wings long, with a clear white, narrow, unbroken line at base. Large dusky spots opposite veins succeed this and are followed by another narrow whitish line; borders dusky. Beneath the dusky lines on all wings above are strongly reproduced in brown, the pale lines becoming clear white. On secondaries the space between dusky lines is traversed by a geminate white line, and the darkened borders of all wings show an irregular white submarginal line; discal spots indistinct. Fringes as above; body, legs, and abdomen whitish, heavily sprinkled with dark-brown scales, the latter paler.

The male and female types, together with two male co-types, were taken June 10 and June 7, 1898, respectively, at Pullman, Washington, by C. V. Piper, and are in the collections of the U. S. National Museum, type No. 13663.

***Eupithecia piccata*, new species.**

Expanse, 14 to 15 mm.

Palpi long, stout, dark brown, tipped with white, vertex and front white, a few dark-gray scales intermixed. Antennæ slender, ciliate, white, ringed with dark gray. Thorax and abdomen above clothed uniformly with a mixture of gray and brownish scales, no ring on second segment. All wings above grayish white thickly covered with light and dark brown scales, the latter forming along costa of primaries about four equidistant blotches, and the cross-lines proceeding from them. Of these the basal and median are mere rounded shade lines within discal point, but from the costal inception of the latter line there starts also a clearly defined dark-brown hair-line, which turning outward makes an acute angle close to and enclosing the small black discal point, thence slightly basal, wavy, to inner margin about half out. This and the extra-discal running parallel with it include a pale space traversed centrally by a pale, indefinite hair-line, and are darker and more easily traced. The succeeding geminate pale lines are not more distinct than central pale band, and the subterminal waved line, usually white, is only so in one of the three specimens before me, the female type, where it is clear white, broadened

into spots at apex, centrally, and at anal angle. Beneath silvery brownish ashen, dusky along costa of primaries and terminally on all wings. The geminate pale lines are defined by dusky shade lines, and in one example the intra-discal is also thus depicted. Discal spot rather large, linear, but not distinct, dusky. Marginal line and fringes as above. Body beneath and legs white. Tip of abdomen darker, scaled as above. On secondaries one or two basal hair-lines, short at inner margin. Only the intra-discal hair-line runs thus; the small black discal point and the extra-discal round out more widely about cell; with this the pale geminate lines are parallel and as distinct as on primaries, bounded outwardly by another dark diffuse line; terminal space showing the white line very faintly, except in female type, where it is white and "spotty" toward anal angle. Marginal line on all wings blackish, widely broken at veins. Fringes moderate, same color as wings, darker at base.

Type: Male and female are good examples of this small species and were taken August 9 at Las Vegas Hot Springs, New Mexico, many years ago. They are in the U. S. National Museum; type No. 13364.

***Eupithecia segregata*, new species.**

Expanse, 18 mm.

Palpi long, moderately stout, brownish, flecked with white scales. Head and front similarly clothed, the vertex paler, antennæ slender, flattened, slightly ciliate. Thorax and all wings above soiled white, thickly sprinkled with dark brown and grayish scales. Primaries not much extended, the margins slightly curved along costa and submarginally they are heavily scaled and thus darkened. Two broad bands of similar scales bound the discal space, the outer including the large round black discal dot, and between them a white space of equal width, traversed centrally by a narrow brown hair-line. These bands run straight toward outer margin across costa, the outer to vein 6, the inner to cell center, then turn at a sharp angle and run with a basal trend toward inner margin, becoming paler as they approach it. Basal area of wing pale, apparently without lines; beyond the outer dark band a broad pale band crosses, through which run three faint hair-lines, the inner pair darker at costa, the outer traversing the pale geminate line which forms the outer boundary of pale space, leaving the narrow dark submarginal space, through which runs a very fine white, wavy line, ending in a distinct twin spot between veins 1 and 2. Marginal line black, broken at veins. Fringes dusky brown at vein-tip, marked with spots of dark brown. Secondaries paler, with brown scales heaviest along outer margin, the geminate pale line running close to margin; its outer edge, strongly crenulate, is clearly traceable. A broad central pale band is present as on forewings and three dark lines which start from inner margin fade out centrally, the inner reaching to the small round black discal dot. A triangle of black scales on basal inner margin, abdomen above dark-brown and gray scales mixed, the black band on second segment, broad at sides, is reduced to

a mere line dorsally on posterior edge. Beneath ashen, the pale band as above showing white, and all lines apparent, but much finer, the heaviest being the intra-discal and the outer bordering or geminate pale lines, while the extra discal becomes a row of black dots on veins. The lines are broad and dark at costa on primaries, and the discal dot large, linear, and jet black, on all wings. Marginal line and fringes as above. Body and legs ashen, sprinkled heavily with dark brown.

Type: No. 13365; one male and one female, the former from Southern Arizona (Poling), without date, through the courtesy of Dr. Dyar, I have been allowed to retain. The latter is the type, so-called, of *Tep. niveifascia* Hulst (Can. Ent., xxx, p. 115), recorded from Oregon. It will be noted that it is not even congeneric with the true *niveifascia*, the type of which is in the Hulst collection at New Brunswick.

TWO NEW PARASITIC HYMENOPTERA.

[Chalcidoidea; Pteromalidæ.]

BY J. C. CRAWFORD.

Coelopisthia diacrisiæ, new species.

Female.—Length about 2.5 mm. Head and thorax bronzy-æneous, with shallow thimble-like punctures; antennæ brown, scape and pedicel testaceous; first ring joint transverse, second slightly longer than broad; pedicel longer than ring joints and first joint of funicle united; scutellum at rear with larger punctures, causing the appearance of an indistinct transverse line on scutellum; propodeum with an indistinct median carina; lateral folds indicated at base only; area bounded by lateral folds punctured; back of the lateral folds the punctures extend laterad to the spiracles; neck of propodeum very short; wings somewhat dusky; postmarginal vein shorter than stigmal; legs reddish testaceous; hind femora and tibiæ dark brown, knees, bases, and apices of tibiæ testaceous; abdomen very dark brown, basally metallic greenish.

Male unknown.

Habitat: Rocky Ford, Colorado.

Reared from *Diacrisia virginica*, by H. O. Marsh, Bureau of Entomology, U. S. Department of Agriculture, and recorded under Chittenden No. 1561.

Type: Cat. No. 13367, U. S. National Museum.

Merisus mordellistenæ, new species.

Female.—Length about 2 mm. Head and thorax purplish black, with scattered silver-white hairs; pleuræ and coxæ with a bluish tinge; punctures of head and thorax deep, thimble-like; face below antennæ with striæ converging towards the mouth; scape and pedicel brown, rest of antennæ honey-color; pedicel about as long as ring joints and first joint of funicle united; second ring joint about twice as long as first; joints of